

Skylights

Newsletter of the Astronomical Society of Northern New England

Starfest page 15



SEP2022



Member of NASA's
Night Sky Network



Astronomical League

ASNNE MISSION

ASNNE is an incorporated, non-profit, scientific and educational organization with three primary goals:

- 1) To have fun sharing our knowledge and interest with others.
- 2) To provide basic education in astronomy and related sciences to all who are interested.
- 3) To promote the science of Astronomy.

What's Up In September

By Bernie Reim

The month of September always marks the beginning of fall for us in the northern hemisphere. This month that will happen at exactly 9:04 p.m. on Thursday the 22nd. The autumnal equinox along with the vernal equinox mark the only two days each year that the sun will rise due east and set due west for everyone on Earth except at the poles. The days and nights will also be of equal length, 12 hours, for everyone on Earth except at the poles, within a few days of the equinoxes. That is because we are tilted on our axis and orbit in an ellipse, otherwise it would happen on the same day.

We are now tilted at 23.5 degrees. You can prove that for yourself by simply measuring the angle of the sun above your horizon at noon on the winter solstice and again at noon on the summer solstice, subtract your latitude, and divide by two. For us at this latitude near Portland, Maine at 43.6 degrees, the sun reaches about 67 degrees high on the summer solstice and only 24 degrees on the winter solstice at noon.

Our obliquity actually changes slowly from 24.5 degrees down to 22.1 degrees and back again on a 41,000 year cycle. We will reach our minimum tilt in about 10,000 years. The eccentricity of our elliptical orbit around the sun is also changing a little over a 100,000 year period.

The third cycle is the 26,000 year cycle called the precession of the equinoxes. Our North Star is continually changing. It will be Gamma Cephei in 2000 years and Vega in about 13,000 years. Our axis traces a circle with a roughly 45 degree diameter in the sky every 26,000 years because the whole earth is wobbling like a top. We will be able to see the famous Southern Cross right here in Maine when Vega becomes our north star, but I recommend you travel south to see it way before then.

Those three cycles are called the Milankovitch cycles after the Serbian engineer that discovered them in the 1930's. These play a major role in the formation and dissolution of our ice ages. We have been through 8 of them in the last 1 million years. We are very lucky that our tilt is not more extreme like on some planets and that we have a moon to farther stabilize our seasons and tides.

Since it is important to notice the position of the sunrise and sunset now, here is a new way of looking at that every day. You know that the sun is not really rising or setting, it is just the earth spinning towards the east that makes it seem that way. Buckminster Fuller, our planet's "friendly genius" coined many new terms that help us to understand where we really

are and what is really happening with the earth in relation to space. Think of sunrise as "sunsight" and sunset as "sunclipse". We are merely seeing the sun again in the morning and then the sun is being eclipsed by our shadow each night.

To get a better sense of where we are in relation to the center of the earth, every time you go upstairs think of going "outstairs" away from the center of the earth and every time you go downstairs think of going "instairs" towards the center of the earth.

As the nights are getting longer and cooler now, there are several good highlights to enjoy this month along with becoming more aware of our rotation on our axis and our revolution around the sun. We are rotating at about 750 miles per hour at our latitude, which is about the speed of sound, and we are always revolving around the sun at 18.6 miles per second, or just 10,000 times slower than the speed of light. These include the opposition of Jupiter on the 26th and the opposition of Neptune on the 16th. Since Saturn reached opposition last month, it is now rising before sunset and becomes visible low in the east as soon as it gets dark enough which will be around 8:30 pm. The second largest asteroid, Vesta, is visible near Saturn and Comet PanSTARRS is still visible in Scorpius. Then there are the usual close conjunctions of the moon with the planets.

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What's Up "Continued from page 1"

Jupiter spends one year in each of our 12 zodiac constellations. You can find it in southern Pisces now and it will rise exactly at sunset on the 26th. It will then be at its closest and brightest for the year, revealing many of its cloud bands, its Great Red Spot, and shadows of its moons in transit across its disk even in a small telescope.

You can see Neptune in Aquarius just to the right of Jupiter and a quarter of the way towards Saturn with just a pair of binoculars since it will reach its brightest for the year, 7.7 magnitude, on the 16th. It glows with a beautiful faint bluish light. Neptune was discovered on September 23 of 1846 by the German astronomer Johann Galle. He found it exactly where it was predicted to be by the French astronomer LeVerrier and the English astronomer John Couch Adams. This was the first planet that was calculated mathematically before it was actually found. It is also the eighth and last planet in our solar system since Pluto was reclassified as a dwarf planet in 2006. Neptune has only completed just over one orbit since its discovery since it takes 165 years to orbit the sun.

Mars now rises around midnight to begin this month and it will rise by 10 pm at the end of the month. It will reach its own opposition on December 8. Notice that the red planet becomes a new "star" in Taurus this month since it can be seen right above Aldebaran. Then look just to the left to see orange Betelgeuse in Orion, now at magnitude 0.6, having returned to its more normal brightness after reaching its dimmest magnitude in modern times in late 2019. Aldebaran is a first magnitude star, the faintest of the three neighboring orange objects. Compare their color and brightness all month long as Mars gets brighter each night while Aldebaran and Betelgeuse remain the same. Mars will reach -0.6 magnitude by the end of the month, about 4 times brighter than Aldebaran.

Mercury will make a poor appearance low in the western evening sky for the first two weeks this month. Then Venus is still the brilliant morning star low in the eastern sky in Leo the Lion. Through a telescope you would see that it is nearly fully illuminated now, near superior conjunction with the sun. Look for a thin waning crescent moon with earthshine just above Venus on the morning of the 24th, just after fall will have started.

Look for the second largest asteroid, Vesta, at 330 miles across or about the size of Arizona, 10 degrees below and to the left of Saturn in Capricorn. It will reach 6th magnitude, so it should be easy to see in a pair of binoculars if the moon is not too bright. Many of our meteorites found on Earth come from Vesta, so we have a good idea of its composition even though we have never landed on it.

Comet C/2017 K2 (PanSTARRS) is still about 7th magnitude and visible in binoculars low in the western sky between Scorpius and Libra. Discovered in May of 2017, this comet is four times larger than Halley's, but it does not have much of a tail because it remains too far from the sun for the solar wind to sublimate its surface into gas and dust that would always stream away from the sun no

matter which direction the comet is traveling through space.

I attended the annual Stellafane convention last month in Springfield, VT. This is a pilgrimage for many avid amateur astronomers from all over our country and the world. Nearly 1,000 people attended this year. Next year will be the 100th anniversary of this great event, the oldest star party in the world. Russell Porter started Stellafane, which means "shrine to the stars" in 1923. He also designed the observatory that houses the Mt. Palomar 200 inch reflecting telescope in southern California, which was designed by George Ellery Hale and served as the largest telescope in the world for 45 years until some larger ones were built in Hawaii.

Russell Porter's goal was to make telescopes available to everyone and to encourage average people to make their own and use them to discover more about the amazing universe that we all live in. I met many very interesting people there this year as I always do when I attend. They have several good presentations and workshops and the best part is getting to look through many large telescopes, up to 32 inches this year, at the crystal clear dark skies of Vermont. The theme of the keynote speaker this year was women in astronomy as Dava Sobel talked about how she wrote her book "The Glass Universe" about the Harvard "computers" a group of women who revolutionized astronomy with their discoveries and hard work about 120 years ago.

Sept.3. First quarter moon is at 2:08 p.m. EDT. On this day in 1976 Viking 2 landed on Mars.

Sept.4. Venus passes just north of Regulus this morning.

Sept.7. James Van Allen was born on this day in 1914. He discovered the Van Allen radiation belts that surround the earth.

Sept.8. The moon passes 4 degrees south of Saturn this evening. Mars passes 4 degrees north of Aldebaran this morning.

Sept.10. Full moon is at 5:59 a.m. This is the famous Harvest Moon since it is the closest full moon to the fall equinox. It will rise only about half an hour later each night instead of the average time of 55 minutes because of the shallow angle of the ecliptic with our eastern horizon now. The moon passes 3 degrees south of Neptune.

Sept.11. The moon passes 1.8 degrees south of Jupiter tonight.

Sept.12. Anousheh Ansari was born on this day in 1966. She is Iranian-American and is part of the Ansari X-prize to encourage innovation that benefits humanity. She was also the first woman space tourist as she spent 11 days in space aboard the ISS in Sept. of 2006.

Sept.14. John Dobson was born on this day in 1915. He invented the Dobsonian telescope that is easy to make and he was a key contributor to Stellafane for many years.

Sept.15. James Christy was born on this day in 1938. He discovered and named Charon the largest moon of Pluto's 5 moons, which is about half the size of Pluto at 750 miles.

Sept.16. The moon passes four degrees north of Mars tonight. Neptune is at opposition.

Sept. 17. Last quarter moon is at 5:52 p.m.

Sept.22. The autumnal equinox is at 9:04 p.m.

Sept.25. New moon is at 5:55 p.m.

Sept.26 Jupiter is at opposition today at 4 p.m.



Moon Phases

Sept 3
First Quarter

Sept 10
Full

Sept 17
Last Quarter

Sept 25
New

Moon Data

Sept 7
Moon at perigee

Sept 8
Saturn 4° north
of Moon

Sept 10
Neptune 3° north
of Moon

Sept 11
Jupiter 1.8° north
of Moon

Sept 14
Uranus 0.8° south
of Moon

Sept 16
Mars 4° south
of Moon

Sept 19
Moon at apogee

OBSERVER'S CHALLENGE* – SEPTEMBER, 2022

by Glenn Chaple

NGC 6751 Planetary Nebula in Aquila (Magnitude 11.9; Size 26")

For the third consecutive month, the Observer's Challenge features a planetary nebula. Having explored NGC 6210 (July) and NGC 6772 (August), we turn to NGC 6751. Nick-named the "Glowing Eye Nebula" or the "Puffball Nebula," NGC 6751 is located a little over one degree directly south of the 3rd magnitude star lambda (λ) Aquilae at the 2000.0 coordinates RA 19^h05^m55.6^s, Dec -5°59'32.9". It shares the same low-power field with the ruddy-hued carbon star V Aquilae, which lies one-half degree to its northwest (refer to the accompanying Finder Charts).

As was the case with NGC 6210, NGC 6751 was another William Herschel "miss." It was discovered on July 20, 1863 by the German astronomer Albert Marth, who spotted it with a 48-inch reflecting telescope. Despite the large aperture of this instrument, NGC 6751 can be picked up with a 6-inch scope – even smaller under dark-sky conditions. Visual observers will see the bright, inner part of NGC 6751, which, at 26 arc-seconds in diameter, is approximately equal in apparent size to Saturn's disk. Imagers might be able to capture a faint outer halo that spans twice that diameter.

I tackled NGC 6751 on the evening of August 24, 2022, using a 10-inch f/5 reflecting telescope. It took on the appearance of a 12th magnitude star at 40X. A wide-field eyepiece at 80X revealed its non-stellar nature. At 208X, NGC 6751 was small, dim, and roundish. I was unable to glimpse the 14th magnitude central star. Switching to a 6-inch f/8 reflector, I was still able to pick out NGC 6751 from a rich Milky Way field. An O-III filter held between my eye and the eyepiece dimmed or eliminated the surrounding field stars, while NGC 6751 maintained its brightness.

As with many planetaries, the distance to NGC 6751 is uncertain. A NASA website cites a distance of 6500 light-years and a total diameter of 0.8 light-years.

**The purpose of the Observer's Challenge is to encourage the pursuit of visual observing. It is open to anyone who is interested. If you'd like to contribute notes, drawings, or photographs, we'd be happy to include them in our monthly summary. Submit your observing notes, sketches, and/or images to Roger Ivester (rogerivester@me.com). To find out more about the Observer's Challenge, log on to rogerivester.com/category/observers-challenge-reports-complete.*

"Continued on page 4"

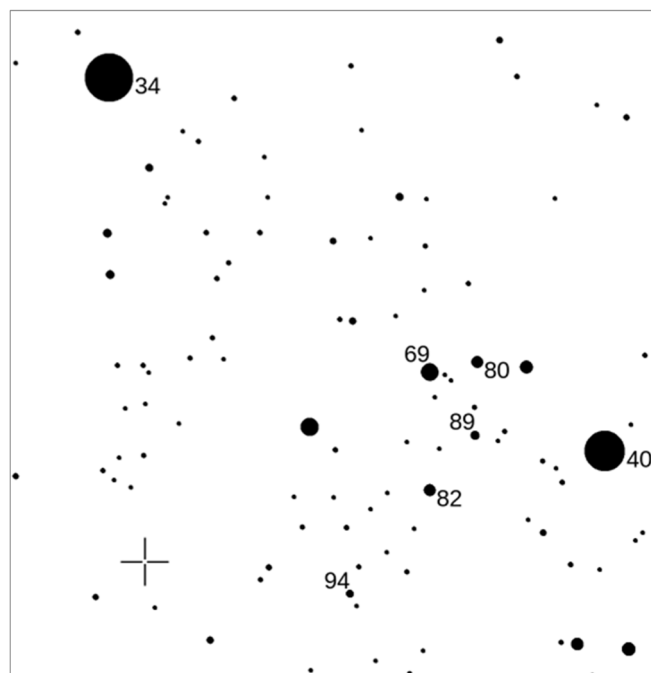
NGC 6751 Finder Charts

A



B

Created using the AAVSO's Variable Star Plotter (VSP). Numbers are stellar magnitudes, decimals omitted. The magnitude 3.4 star is lambda (λ) Aquilae, the magnitude 4.0 star is 12 Aquilae, and the unmarked star near lower center is V Aquilae. Stars plotted to 11th magnitude. North is up in this 1½ by 1½ degree field.



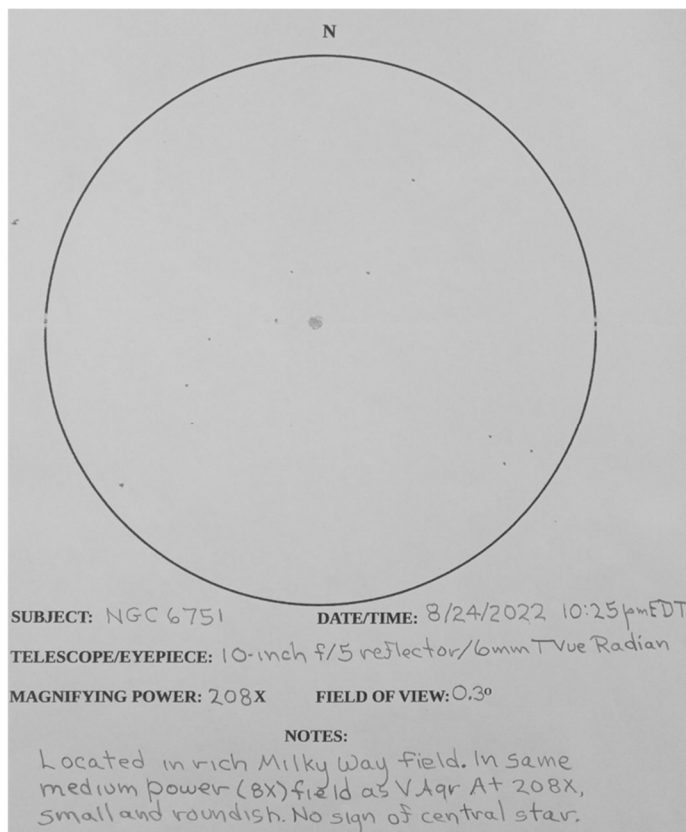
“Continued on page 5”

NGC 6751 Images

Mario Motta, MD (ATMoB) "NGC6751 was a challenge, visually small sphere, with obvious central star, easy to see. Imaging was difficult due to dynamic image range. I took this with Ha, O3, S2 NB filters, but also lum filter to include the bright central star. I noticed faint outer nebulosity in Ha and O3 images, but getting that to show without blowing out the central portion and losing the star was a challenge, A little bit of a compromise to get very faint outer nebulosity and inner bright sphere and star. Taken with my 32 inch scope, and ZWO ASI6200 camera and above filters."



Sketch by Glenn Chaple (ATMoB)



Principal Meteor Showers in 2022

January 4
Quadrantids

April 22
Lyrids

May 6
Eta Aquarids

July 30
Delta Aquarids

August 12
Perseids

October 9
Draconid

October 21
Orionids

November 9
Taurids

November 18
Leonids

November 26
Andromedids

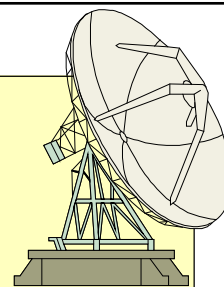
December 14
Geminids

December 22
Ursids

*Note: Dates are
for maximum*

Got any News?

Skylights Welcomes Your Input.



Here are some suggestions:

***Book reviews -- Items for sale -- New equipment --
Ramblings -- Star parties -- Observing -- Photos.***

Benefits of Membership

- Attend our monthly meetings and club star parties
 - Our Monthly Newsletter: *Skylights*
 - Discounts on *Sky & Telescope*. and *Astronomy* magazine subscriptions
 - Automatic subscription to the Astronomical League's quarterly newsletter, *The Reflector*
 - With proper training, access to the equipment at ASNNE's Talmage Observatory at Starfield.
 - By special arrangement, free admission to the Southworth Planetarium at USM in Portland
- Enjoy sharing your interest and have fun learning about Astronomy!

Our Club has Merchandise for Sale at: www.cafepress.com/asnne



***All money raised goes to our operating fund.
Any design can be put on any item.***

Contact David Bianchi dadsnorlax@yahoo.com for further details.



This article is distributed by NASA Night Sky Network

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.org to find local clubs, events, and more!

The Summer Triangle's Hidden Treasures

By David Prosper

September skies bring the lovely **Summer Triangle** asterism into prime position after nightfall for observers in the Northern Hemisphere. Its position high in the sky may make it difficult for some to observe its member stars comfortably, since looking straight up while standing can be hard on one's neck! While that isn't much of a problem for those that just want to quickly spot its brightest stars and member constellations, this difficulty can prevent folks from seeing some of the lesser known and dimmer star patterns scattered around its informal borders. The solution? Lie down on the ground with a comfortable blanket or mat, or grab a lawn or gravity chair and sit luxuriously while facing up. You'll quickly spot the major constellations about the Summer Triangle's three corner stars: Lyra with bright star Vega, Cygnus with brilliant star Deneb, and Aquila with its blazing star, Altair. As you get comfortable and your eyes adjust, you'll soon find yourself able to spot a few constellations hidden in plain sight in the region around the Summer Triangle: **Vulpecula the Fox**, **Sagitta the Arrow**, and **Delphinus the Dolphin**! You could call these the Summer Triangle's "hidden treasures" – and they are hidden in plain sight for those that know where to look!

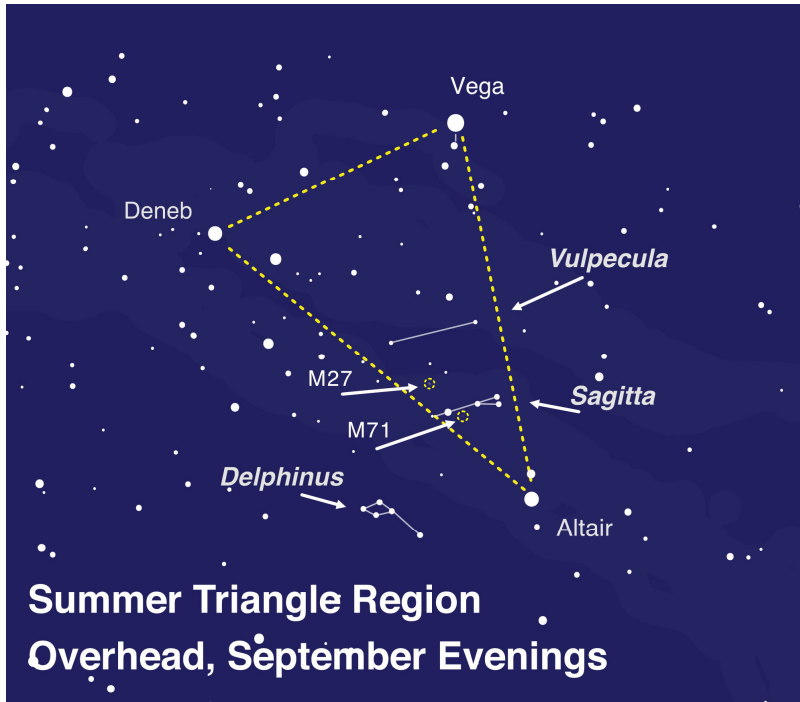
Vulpecula the Fox is located near the middle of the Summer Triangle, and is relatively small, like its namesake. Despite its size, it features the largest planetary nebula in our skies: M27, aka the Dumbbell Nebula! It's visible in binoculars as a fuzzy "star" and when seen through telescopes, its distinctive shape can be observed more readily - especially with larger telescopes. Planetary nebulae, named such because their round fuzzy appearances were initially thought to resemble the disc of a planet by early telescopic observers, form when stars similar to our Sun begin to die. The star will expand into a massive red giant, and its gasses drift off into space, forming a nebula. Eventually the star collapses into a white dwarf – as seen with M27 - and eventually the colorful shell of gasses will dissipate throughout the galaxy, leaving behind a solitary, tiny, dense, white dwarf star. You are getting a peek into our Sun's far-distant future when you observe this object!

Sagitta the Arrow is even smaller than Vulpecula – it's the third smallest constellation in the sky! Located between the stars of Vulpecula and Aquila the Eagle, Sagitta's stars resemble its namesake arrow. It too contains an interesting deep-sky object: M71, an unusually small and young globular cluster whose lack of a strong central core has long confused and intrigued astronomers. It's visible in binoculars, and a larger telescope will enable you to separate its stars a bit more easily than most globulars; you'll certainly see why it was thought to be an open cluster!

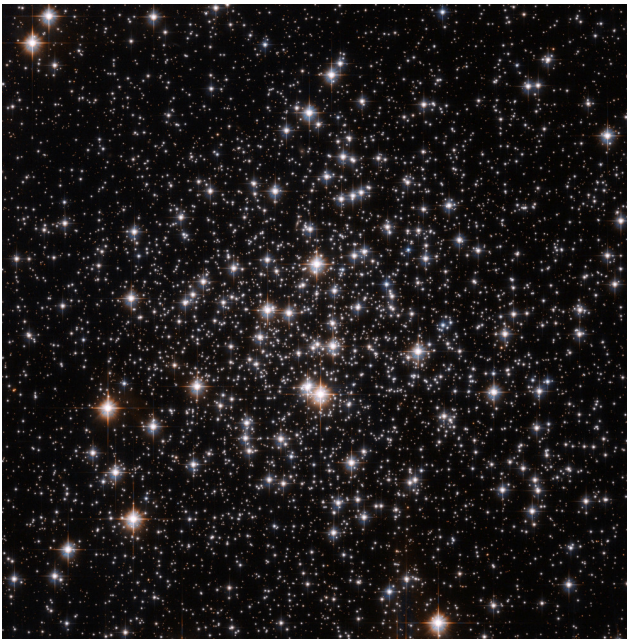
Delicate **Delphinus the Dolphin** appears to dive in and out of the Milky Way near Aquila and Sagitta! Many stargazers identify Delphinus as a herald of the fainter water constellations, rising in the east after sunset as fall approaches. The starry dolphin appears to leap out of the great celestial ocean, announcing the arrival of more wonderful sights later in the evening.

Want to hunt for more treasures? You'll need a treasure map, and the Night Sky Network's "Trip Around the Triangle" handout is the perfect guide for your quest! Download one before your observing session at bit.ly/TriangleTrip. And of course, while you wait for the Sun to set - or skies to clear - you can always find out more about the objects and science hidden inside these treasures by checking out NASA's latest at nasa.gov.

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Search around the Summer Triangle to spot some of its hidden treasures! To improve readability, the lines for the constellations of Aquilla, Lyra, and Cygnus have been removed, but you can find a map which includes them in our previous article, Spot the Stars of the Summer Triangle, from August 2019. These aren't the only wonderful celestial sights found around its borders; since the Milky Way passes through this region, it's littered with many incredible deep-sky objects for those using binoculars or a telescope to scan the heavens. Image created with assistance from Stellarium: stellarium.org



M71 as seen by Hubble. Your own views very likely won't be as sharp or close as this. However, this photo does show the cluster's lack of a bright, concentrated core, which led astronomers until fairly recently to classify this unusual cluster as an "open cluster" rather than as a "globular cluster." Studies in the 1970s proved it to be a globular cluster after all – though an unusually young and small one! Credit ESA/Hubble and NASA. Source: <https://www.nasa.gov/feature/goddard/2017/messier-71>

Point and Shoot Camera Astroimaging (no telescope)

Canon Powershot SX50 HS

Image & write-up submitted by Paul Kursewicz

Barnard's Galaxy and a Planetary

SPECS: RAW mode, f/3.5, FL 388mm, ISO 1800, 39 x 2 min, Baader Moon & Skyglow Filter, 7-30-22



On July 30th I went to our Observatory to help out with a star party. The winners of the Kennebunk Land Trust were present as well as family members and friends. Since there were enough club members there to help out with the star party, I ended up taking pictures of an object that is located low in the southern sky, an area of sky that I cannot see from my home. My target, Barnard's Galaxy (NGC 6822), an irregular dwarf barred spiral that is approximately 1.6 million light-years away, in the constellation Sagittarius. It's my first attempt at capturing an irregular galaxy. It is small and faint, only one tenth of the size of our Milky Way galaxy. It is one of the closer galaxies to the Milky Way and part of the Local Group of galaxies. In most photos it takes on a rectangular shape, as depicted in my cropped image above. This galaxy is similar in structure and makeup to the [Small Magellanic Cloud](#). By not zooming in too close to the galaxy I was able to capture a Planetary Nebula, NGC 6818 (also known as the Little Gem Nebula). In my picture it appears as a bright bluish dot located about halfway above the galaxy and slightly to its right. The planetary is about 6,000 light years away and around 3,500 years old.

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3 Meteor Showers in One Night!

A “Meteor Wind” over Starfield

On the night that I was taking my pictures of Barnard’s Galaxy, Earth was passing through debris streams from three comets: 169P/NEAT, 96P/Machholz, and 109P/Swift-Tuttle. Respectively, these produce the [alpha Capricornid](#), [southern delta Aquariid](#), and [Perseid](#) meteor showers (Earth was only in the outskirts of the Perseid stream.) Together, the three showers would combine for as many as 20 meteors per hour with a sprinkling of bright fireballs after local midnight. Many of us attendees that were at the observatory that night saw meteors throughout the night. Also, the space station made a pass over us.



The next day I looked at each image (over 40) that I took of **Barnard’s Galaxy**, and to my surprise, 12 of those images had a meteor in them, while one image had 2 meteors present. So I decided to make a composite image using the 13 separate images that had meteors in them. From my first captured image of a meteor to my last captured image of a meteor was a span of 3hrs 10min. The three constellations responsible for these meteors were all visible, each just above the horizon. Going from NE to SE, we start with Perseus, then Aquarius, and then Capricornus. Barnard’s Galaxy was positioned just to the upper right of Capricornus. A similar picture as mine appeared on APOD on 8-16-22. It was titled, “**A Meteor Wind over Tunisia.**” The author took his photos about the same time as I took mine. You can click on APOD’s archives to find the photo and read about the explanation for a “**Meteor Wind.**”

Wells Library Star Party and other Public Guests

8/24/22



Below is a comment from Misha (a public guest), who brought her family to the star party:

Hi David, [8-25-22]

Wow, I was just writing a friend about you and how incredibly helpful you were, and what an AMAZING experience it was - I passed on your name to them! Sydney can't stop talking about it. I keep watching the weather hoping Friday's rain won't become reality.

Last night's viewing was so special and I cannot wait to return and see the incredible night sky again through the eyepiece. The majesty of our universe is so great.

I will definitely stay in touch and look forward to catching you on a future trip. Please keep doing what you do — you've inspired us all and I appreciate how helpful you were, making the experience so joyful for our family! Thank you for your kindness.

With deepest gratitude,

Misha

August Club Star Party



The August club star party was planned for Friday, the 26th, but was pushed out to the 28th due to inclement weather. Three members attend; Wayne, James, and myself. We had clear skies, two personal scopes, a camera and tracker set-up, and additional views of Saturn through the club's Zeiss refractor.



I took this picture of Saturn with a pocket point-and-shoot camera. I simply hand held the camera and pointed it into the eyepiece of the Zeiss.

[Astronomical Society of Northern New England \(ASNNE\) Membership](#)

[Meeting Minutes of 5 August 2022](#)

Record Note: At our July Meeting, we agreed that the next Meeting would be at the Talmage Observatory at Starfield, 5 August, 2022, at 5:00 pm. It would be our Annual Outdoor Barbeque Meeting.

At about 3:00 pm, Acting President Bernie Reim called the Barbeque off. Reasons: Fear of rain, and an inability to find our projector.

Five people showed up at Talmage Observatory at Starfield, and had to be re-directed.

Business Meeting: There was no Business Meeting.

Regular Meeting:

Directors Present:

- Bernie Reim, Vice President - Acting President
- Carl Gurtman, Secretary
- Gary Asperschlager, Director
- Bern Valliere, Director

Others Present: There were 9 additional people physically present, and one person present on Zoom.

Acting President Bernie Reim called the Regular Meeting to order at 7:30 pm. He then turned the Meeting over to Carl.

Carl had the one new person, Jim Morris, a retired electrical engineer, introduce himself. Jim has always been interested in astronomy, and now will more fully explore the sky.

"What's Up?":

Bernie then gave his usual thorough, comprehensive, and complete discussion of what's in store for us in the skies of August, named for Augustus Caesar. It is our last month of summer.

Bernie discussed the August planets, and the August meteor showers.

He covered "What Happened on this Day. . .", and the names of this month's moon.

Bernie's excellent presentation, in its entirety, can be found, this month, and every month, in *Skylights*, ASNNE's professional-quality newsletter; editor, Paul Kursewicz. *Skylights* may be found at: <http://www.asnne.org/newsletter.php>

Additionally, Bernie provided information on the James Webb Space Telescope.

“Continued on page 14”

Presentation:

Our Presentation this evening was offered by one of our new Members, Mark Hamilton, and was on Astrophotography, specifically Mark's journey from a complete tyro, to a highly-accomplished Astrophotographer.

Mark started by introducing himself, a little bit of his background, and described his hobbies. Mark's background in computers, and the risk-taking nature of some of his hobbies, helped him in his journey.

Mark started with the simplest of tools, a small refractor, and a cell-phone camera. He decided to just forge on ahead, and learn as he went. Learning by doing, with assistance from YouTube, Mark went on to bigger tracking telescopes, much better cameras, and highly sophisticated photograph stacking computer programs, and computer controls. All this was done incrementally, step-by-step, with no huge leaps. Now, Mark's equipment is highly automated, and can be controlled remotely.

He's also alerted by one of his computers if the weather may become threatening, so he can move all his equipment, on castors, into his garage.

Mark ended his Presentation with some samples of his photographs, all very beautifully done, sharp, with exquisite detail. He also contrasted some of his earlier photographs with some of his later ones. and the difference shows how much more accomplished the later ones are. Mark also offered to personally help anyone in ASNNE who wanted to learn more about Astrophotography.

Then there was a Question-and-Answer period.

The Presentation was detailed, thorough, delivered with humor and enthusiasm, and very well received!!

Maintenance Required: David has discovered that the cable which rolls the Observatory roof back and forth is damaged, and presently can only be used to close the Observatory roof, but not to open it. The roof must be opened by hand. **This cable must be replaced!!**

The next ASNNE Meeting, will be Starfest, 2022. This will be held from Friday, 23 September through Sunday, 25 September, at the Talmage Observatory at Starfield. There will be day and night observing. Members are welcome to camp out - tenting or vehicles, throughout the Event. Bern will be our Presenter. There will also be a cookout

Respectfully submitted,

Carl Gurtman

Club Meeting & Star Party Dates

Date	Subject	Location
<u>Sept 23,24,25</u> Last Month	<p style="text-align: center;"><u>STARFEST WEEKEND</u></p> <p>Our September Club Meeting will take place during Starfest Weekend. So, <u>no club meeting at The New School.</u></p> <p style="color: green; text-align: center;">Might want to bring a chair and or a table.</p> <p><u>FRIDAY:</u> Starfield Observatory gates open in the morning. Tent set-up in the afternoon. Solar Viewing during the day. And night viewing all night if you would like.</p> <p><u>SATURDAY:</u> <i>Day Time:</i> - BBQ (2 PM?), Solar Viewing, Raffle Table, What's Up, Tent Talks, Show & Tell, Astro Shorts. <i>Night Time:</i> - Observing, Campfire. <u>FRI/SAT:</u> Astro "B" Movie Theater (conditional). <u>SUNDAY:</u> Clean-up. TYO Trash.</p> <p>We had our club meeting at The New School. One member joined us on Zoom. The keynote speaker was club member Mark Hamilton. Mark's presentation was on Astroimaging. Bernie did his "What's-Up" presentation and certain club members contributed to Astroshorts.</p>	<p>Talmage Observatory at Starfield West Kennebunk, Me.</p> <p style="color: green; text-align: center;">Feel free to camp in the field.</p> <p><u>Saturday's keynote speaker will be club member Bern Valliere. His presentation will be on the Cosmic Distance Latter.</u></p>
<u>Sept 23,24</u>	<p>Club/Public Star Party: Weather permitting. Check before heading over.</p>	<p>Talmage Observatory at Starfield West Kennebunk, Me.</p>

Directions to ASNNE event locations

Directions to The New School in Kennebunk [38 York Street (Rt1) Kennebunk, ME]

For directions to The New School you can use this link to the ASNNE NSN page and then click on "get directions" from the meeting location. Enter your starting location to generate a road map with complete directions. It works great. http://nightsky.jpl.nasa.gov/club-view.cfm?Club_ID=137

Directions to Talmage Observatory at Starfield [Alewife Road, Kennebunk, ME]

From North:

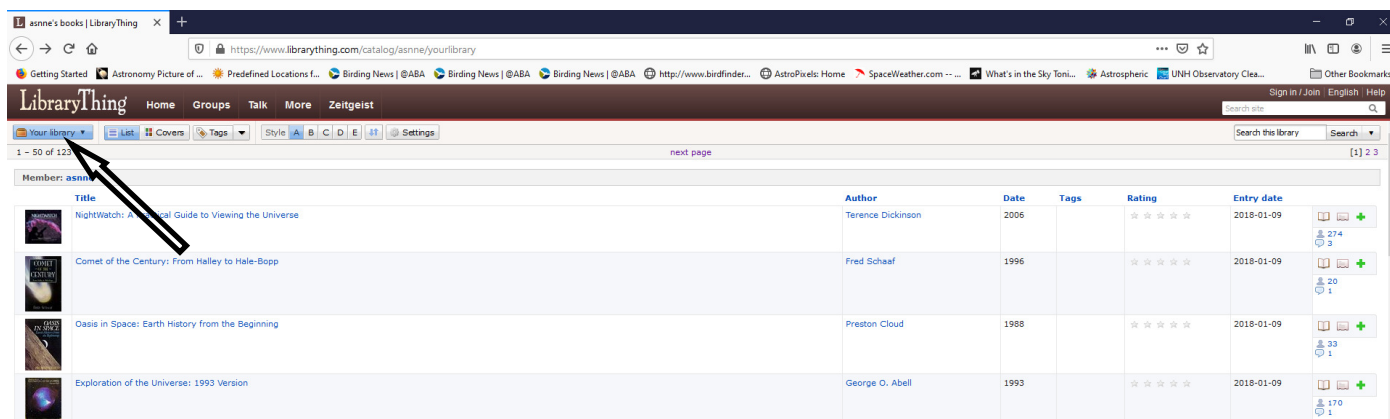
Get off turnpike at exit 32, (Biddeford) turn right on Rt 111. Go 5 miles and turn left on Rt 35. Go 2 miles on Rt 35 over Kennebunk River to very sharp 90 degree left turn. The entrance to the Starfield Observatory site is at the telephone pole at the beginning of the large field on the left. Look for the ASNNE sign on the pole.

From South:

Get off the turnpike at exit 25 in Kennebunk. After toll both turn right on Rt 35. Go up over the turnpike and immediately turn right on Rt 35. About 4 miles along you will crest a hill and see a large field on your right. Continue until you reach the end of the field. Turn right into the Starfield Observatory site at the last telephone pole along the field. Look for the ASNNE sign on the pole. If you come to a very sharp 90 degree right turn you have just passed the field.

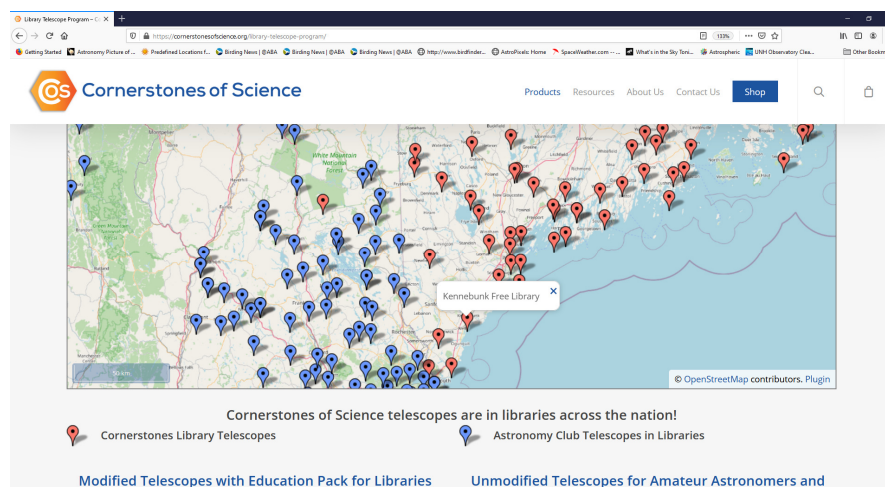
Astronomy Club & Library Resources

Our club has a library of astronomy books which are stored at The New School in Kennebunk, Maine (our monthly club meeting location). To request a book(s), contact one of the club officers. A listing of books is provided here: <https://www.librarything.com/profile/asmne> . After clicking on the link, a window will open. Click on “Your library” near the upper left corner (as shown by the arrow below). Then scroll down to the end of the page to go to the next page.



Would you like to borrow a telescope? While many astronomy clubs may have a scope to lend out, there are also many libraries which have telescopes for their guests to use. Here are a couple of links.

The following link will bring up an active map (see screen shot below) of the USA showing the libraries which have telescopes to lend out: <https://cornerstonesofscience.org/library-telescope-program/>



The below link will show a list of known participating library locations for the state of Maine.
<https://www.librarytelescope.org/locations/usa/maine>

To join **ASNNE**, please fill out the below membership form. *Checks should be made payable to: Astronomical Society of Northern New England (A.S.N.N.E).* For more details, please visit our website: <http://www.asnne.org>



Astronomical Society of Northern New England
 P.O. Box 1338
 Kennebunk, ME 04043-1338

2022 Membership Registration Form

(Print, fill out and mail to address above)

Name(s for family): _____

Address: _____

City/State: _____ Zip code: _____

Telephone # _____

E-mail: _____

Membership (check one):

Individual \$35 _____ Family \$ 40 _____ Student under 21 years of age \$10 _____ Donation _____

Total Enclosed _____

Tell us about yourself:

1. Experience level: Beginner _____ Some Experience _____ Advanced _____

2. Do you own any equipment? (Y/N) And if so, what types?

3. Do you have any special interests in Astronomy?

4. What do you hope to gain by joining ASNNE?

5. How could ASNNE best help you pursue your interest in Astronomy?

6. ASNNE's principal mission is public education. We hold many star parties for schools and the general public for which we need volunteers for a variety of tasks, from operating telescopes to registering guests to parking cars. Would you be interested in helping?

Yes _____ No _____

7. ASNNE maintains a members-only section of its web site for names, addresses and interests of members as a way for members to contact each other. Your information will not be used for any other purpose. Can we add your information to that portion of our web site?

Yes _____ No _____

